ORDER NO. GAD84085457A2

Service Manual

Radio Cassette

FM-AM-FM Stereo Radio
Cassette Player

RX-S35

(Black)

This is the Service Manual for the following areas.

G ... For West Germany.

- Please use this manual together with the service manual for model No. RX-S35 order No. GAD84065437C2.
- This service manual indicates the main differences between; Original RX-S35 and RX-S35 for West Germany.

CHANGE OF PARTS

■ PARTS COMPARISON TABLE

Ref. No.	Description	Part Number		Remarks
		RX-S35 N (Original)	RX-S35 G	
C4	Capacitor, 50V, 15pF	RCUX1H100KC	RCUX1H150KC	
C5	Capacitor, 50V, 27pF	RCUX1H180KC	ECUX1H270KR	
L2	Oscillator Coil, FM	RLO4Y19	RLO4N162	
K2-1	Name Plate	RGT1086X	RGT1086V	
M12	Pinch Roller Arm Ass'y (REV)	RFR24Y	RFR24Z	
M22	Pinch Roller Arm Ass'y (FWD)	RFR25Y	RFR25Z	

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

GAD G
K.H

Printed in Japan

ORDER NO. GAD84065437C2

Service Manual

Radio Cassette

RX-S35

(Black)

FM-AM-FM Stereo Radio
Cassette Player

This is the Service Manual for the following areas.

Z ...For all European areas except United Kingdom.

■ SPECIFICATIONS

General:

Power Requirement:	AC; 220V, 50Hz with optional AC Adaptor RD-9443HS Battery; 3V (Two "AA" Size Penlight Batteries) (Panasonic UM-3 or equivalent)
Power Output:	40mW (20mW×2) Headphones
Input:	DC IN; 3V
Output:	HEADPHONES; 32Ω
Dimensions:	84.5(W)×114.5(H)×34.5(D)mm $(3^{5}/_{16}\times4^{1}/_{2}\times1^{3}/_{8})''$
Weight:	260g (9.2 oz.) without batteries

Radio Section:

Radio Frequency Range:	FM; 87.5~108MHz AM; 520~1610kHz (577~186m)
Intermediate Frequency:	FM; 10.7MHz AM; 455kHz
Sensitivity:	FM; 2.5μV (−3dB Limit Sens.) AM; 100μV/1mW output

Tape Deck Section:

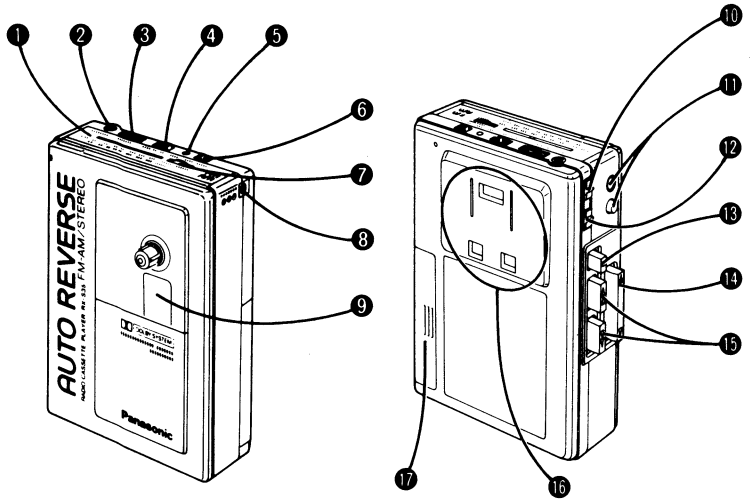
Frequency Response:	50~12,000Hz (with normal tape) 50~12,000Hz (with Metal tape)
Tape Speed:	4.8cm/s, ($1^{7}/_{8}$ ips)
Program Time:	1 hour with C-60 cassette tape
Track System:	4-track 2 channel stereo recording and playback

Design and specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

LOCATION OF CONTROLS AND COMPONENTS



1. FM Stereo Indicator (FM ST)
2. Headphones Jack (PHONES) ϕ3.5, 32Ω
3. Volume Control (VOLUME)
4. Band Selector [FM ST, FM, AM]
5. Battery Check Indicator (BATT)
6. Function Selector [TAPE/OFF, RADIO]
7. Tuning Control (Tuning)
8. DC Input Jack (DC IN 3V ⊕-⊂-⊖)
9. Cassette Compartment
10. *Dolby Noise Reduction Switch (DOLBY NR) [IN, OUT]
11. Tape Direction Buttons (REV ▲ • FWD ▼)
12. Tape Selector (TAPE) [NOR, CrO_2/METAL]
13. Stop Button (■ STOP)
14. Playback Button (▲ PLAY ▼)
15. Rewind/Fast Forward Buttons (⏫ • ⏬)
16. Clip Receptacle
17. Battery Compartment

*"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

DISASSEMBLY INSTRUCTIONS

A. How to remove the cassette panel.

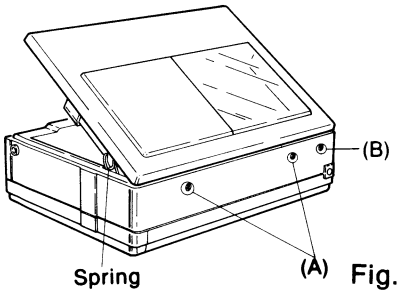


Fig. 1

1. Remove two screws-A. (1.7×4) and spring. (Fig. 1)

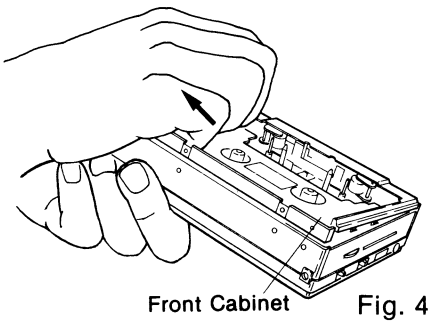


Fig. 4

4. Remove the front cabinet in the direction of arrow. (Fig. 4)

B. How to remove the front cabinet.

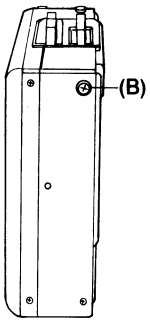


Fig. 2

1. Remove two screws-B. (2×4) (Fig. 1), (Fig. 2)

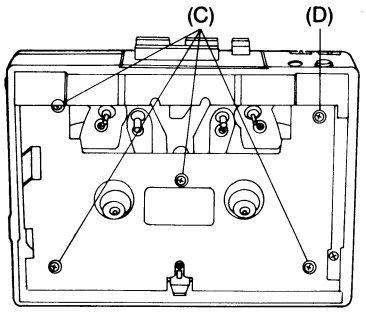


Fig. 3

2. Remove four screws-C. (1.7×4) (Fig. 3)
3. Remove one screw-D. (2×10) (Fig. 3)

C. How to remove the mechanism.

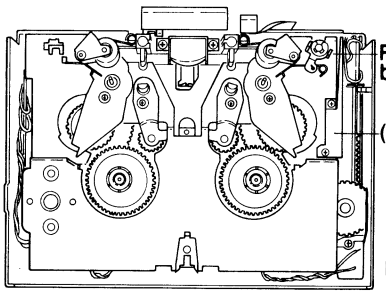


Fig. 5

1. Pull off the plug-E (5p). (Fig. 5)

■ When replacing the mechanism. Push the reverse button to "REV" position. (Fig. 5)

■ Note (How to replace the dial chassis)

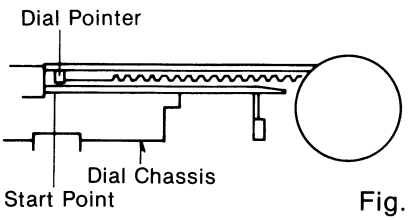


Fig. 7

When replacing the dial chassis.
1. Turn the dial gear and tuning nob (Dial Chassis) to counter-clock wise.
2. Set the dial pointer to start point. (Fig. 7)

D. How to remove the Dial Chassis.

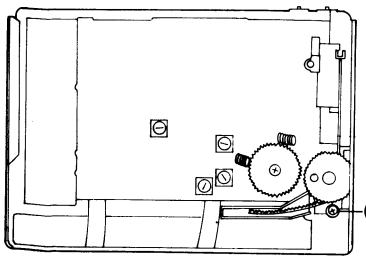


Fig. 6

1. Remove one screw-F. (2×8) (Fig. 6)

E. How to remove the circuit board.

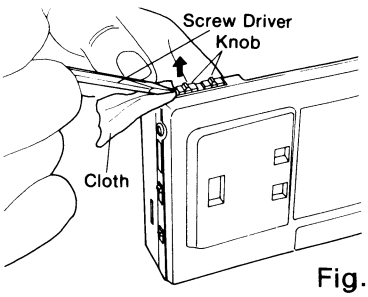


Fig. 8

1. Remove the knob in the direction of arrow. (Fig. 8)

ORDER NO. GAD8607184P8

Parts Change Notice

This is the Service Manual for the following areas.
[Z]··· For all European areas exceput F.R.Germany.
[G]··· For F.R.Germany. [X]··· For Asia, Latin America, Middle East and Africa areas.
[L]··· For Australia.

Model No. RX-S35

Please revise the original parts list in the Service Manual to conform to the change(s) shown herein. If new part numbers are shown, be sure to use then ordering parts.

(ORDER NO. GAD8406543 7C2
GAD8408545 7A2
GAD8406543 6C3)

Reason for Change

*The circled item indicates the reason. If no marking, see the Notes in the bottom column.

1. Improve performance
2. Change of material or dimension
3. To meel approved specification
4. Standardization
5. Addition
6. Deletion
(7.) Correction
8. Other

Interchangeability Code

**The circled item Indicates the interchangeability. If no marking, see the Notes in the bottom column.

	Parts		Set Production	
A	Original	⤫	Early	Original or new parts may be used in early or late production set.
	New		Late	Use original parts until exhausted, then stock new parts.
B	Original	↗	Early	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.
	New		Late	
C	Original	↗	Early	New parts only may be used in early or late production sets.
	New		Late	Stock new parts.
D	Original	→	Early	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
	New	→	Late	
E	Other			

Part Number

Model No.	Ref. No.	Original Part No.	New Part No.	Notes	Part Name & Description	Price
	M34	RBC6057	RBC6027	7	Button, Play	
	M76	RBC6027	RBC6037	7	Button, FF	

File this Parts Change Notice with your copy of the Service Manual.

National / Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

Printed in Japan (N)

RX-S35 FRANÇAIS

■ SPECIFICATIONS

Généralités:

Alimentation: Piles: 2 piles de 1,5V taille "AA" (Panasonic UM-3 ou équivalent)
Puissance de sortie: 0,4W (0,2W×2)
Entrée: DC IN: 3V
Sortie: HEADPHONE: 32Ω
Dimensions (l×h×Pr)cm: 8,45×11,45×3,45 ($3^{5}/_{16}$×$4^{1}/_{2}$×$1^{3}/_{8}$)"
Poids kg: 0,26 sans piles

Section radio:

Gamme de fréquence
radio: FM: 87,5 à 108MHz
AM: 520 à 1610kHz (577 à 186m)

Fréquence intermédiaire: FM: 10,7MHz
AM : 455kHz
Sensibilité: FM: 2,5μV (−3dB sensibileté)
AM: 100μV pour une sortie de 1mW

Section platine magnétophone:

Réponse de fréquence: 50 à 12.000Hz (avec bande normale)
50 à 12.000Hz (avec bande Métal)
Vitesse de bande: 4,8cm/sec.
Durée de lecture: 1 heure avec cassette C-60
Pistes: Enregistrement et lecture stéréo 4 pistes, 2 canaux

Ces spécifications sont sujettes à des changements sans préavis.

SYMBOLES UTILISES DANS LE SCHEMA

Remarques:

1. S1-1, S1-2: Commutateur de fonction en position "TAPE". (1..."TAPE/POWER OFF", 3..."RADIO").
2. S2-1, S2-2: Sélecteur de gamme d'onde en position "AM". (1, 3..."MW", 2, 4..."FM", 3, 5..."FM ST").
3. S3-1, S3-2: Sélecteur de bande en position "NORMAL". (1..."NORMAL", 3..."CrO_2/METAL").
4. S4: Commutateur "IN/OUT" du dolby en position "OUT".
5. S5: Commutateur "ON/OFF" du moteur en position "OFF".
6. S6: Sélecteur de head en position "FWD".
7. VR1: Réglage de fréquence de l'oscillateur VCO.
   VR2, 3 Régulateur de tension de réglage de gain de lecture.
   VR4: Potentiomètre de volume.
8. La marque (▼) signale un point de vérification.
   Ex.: ▼ = point de vérification 1.
9. La tension C.C. est mesurée au moyen d'un voltmètre électronique à partir de la borne négative de la pile.
   < >...Position FM, ( )...Position AM,
   Non marque...Position Lecture.
10. Courant des piles: Pas de signal 15mA
    Sortie maximum (Radio).....24mA
    Sortie maximum (Bande) 157mA

ALIGNEMENTS

■ INSTRUCTIONS D'ALIGNEMENT

AVANT DE PROCEDER AUX ALIGNEMENTS, LIRE ATTENTIVEMENT CE QUI SUIT	
1. Placer le potentiomètre de volume au maximum.	4. Régler la tension sur 3V C.C.
2. Placer le sélecteur de bande sur AM ou FM ST.	5. Régler la sortie du générateur étalonné de façon à ne pas surcharger les circuits.
3. Placer le sélecteur de fonctions sur "radio".	

■ ALIGNEMENT AM

	BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRONIQUES)	REGLAGE	OBSERVATIONS
		BRANCHEMENTS	FREQUENCE				
	ALIGNEMENT IF sur AM						
(1)	AM	Faire une boucle de plusieurs tours de fil et émettre le signal dans la boucle du récepteur.	455kHz (modulation de 30% à 400Hz)	Point de non-interférence. (à/environ 600kHz)	Voltmètre branché à la bobine oscillatrice.	T3 (AM IFT)	Régler pour une sortie maximum.
	ALIGNEMENT HF sur AM						
(2)	AM	〃	511kHz	Condensateur variable totalement fermé.	〃	L4 (bobine d'oscillateur AM)	Régler pour une sortie maximum.
(3)	AM	〃	1.650kHz	Condensateur variable ouvert à fond.	〃	CT4 (trimmer d'oscillateur AM)	〃
(4)	AM	〃	550kHz	Syntoniser sur le signal.	〃	(＊1) L3 (bobine d'antenne AM)	Régler pour une sortie maximum en glissant la bobine L3 le long du noyau en ferrite.
(5)	AM	〃	1.500kHz	〃	〃	CT3 (trimmer d'antenne AM)	Régler pour une sortie maximum. Refaire les étapes (2) à (5).

(＊1) Sceller la bobine d'antenne à la cire après avoir achevé l'alignement.

■ ALIGNEMENT FM

	BANDE	GENERATEUR ETALONNE ou GENERATEUR DE BALAYAGE		POSITION DE L'AIGUILLE SUR LE CADRAN	INDICATEUR (VOLTMETRE ou OSCILLOSCOPE ELECTRONIQUES)	REGLAGE	OBSERVATIONS
		BRANCHEMENTS	FREQUENCE				
	ALIGNEMENT IF sur FM						
(1)	FM	Brancher au point ▼3 via 0,001μF. Côté négatif au point ▼2.	10,7MHz (SWP.)	Point de non-interférence. (à/environ 90MHz)	Brancher la sonde vert. de l'oscilloscope au point ▼5. Côté négatif au point ▼2.	T1 (FM 1ére IFT)	Régler pour une amplitude maximum. (Voir fig. 18.)
(2)	FM	〃	〃	〃	〃	T2 (FM 2ème IFT)	Régler pour une amplitude maximum. (Voir fig. 19.)
	ALIGNEMENT HF sur FM						
(3)	FM	Brancher au point ▼1 via une antenne fictive FM. Côté négatif au point ▼2.	86,2MHz	Condensateur variable totalement fermé.	Voltmètre branché à la bobine oscillatrice.	L2 (bobine d'oscillateur FM)	(＊2) Régler pour une sortie maximum.
(4)	FM		109,2MHz	Condensateur variable ouvert à fond.	〃	CT2 (trimmer d'oscillateur FM)	〃
(5)	FM		90MHz	Syntoniser sur le signal.	〃	L1 (bobine d'antenne FM)	〃
(6)	FM		106MHz	〃	〃	CT1 (trimmer d'antenne FM)	(＊2) Régler pour une sortie maximum. Refaire les étapes (3) à (6).

(＊2) Il y aura trois réponses de sortie; la syntonisation adéquate est la fréquence du milieu.

■ ALIGNEMENT DE LA SEPARATION

ELEMENT	GENERATEUR DE SIGNAUX FM BRANCHEMENT SUR LA SOURCE	BRANCHEMENT A L'EQUIPMENT (COMPTEUR ELECTRONIQUE)	REGLAGE	SPECIFICATION	REMARQUES
Réglage du signal pilote.	98MHz, 60dB Brancher au point ▼1 via une antenne fictive FM. Côté négatif au point ▼2.	▼6...(+) Terre...(−)	VR1	19kHz	Régler VR1 pour 19kHz (±100Hz) en effectuant la lecture sur le compteur électronique.

■ ALIGNEMENTS AUDIO

ELEMENT	ENTREE	POINT DE MESURE	SPECIFICATION	POINT DE REGLAGE	OBSERVATIONS
Azimut	QZZCFM (8kHz, −20dB)	PHONES	Régler pour une sortie maximum.	Vis d'azimut	Mode de lecture Vérifier que la différence entre FWD (marche avant) et REV (marche arrière) se situe bien dans l'intervalle ±3dB
Niveau de lecture	QZZCFM (315Hz, 0dB)	▼7...(canal gauche) ▼8...(canal droit) Terre...(−)	72±8mV	VR2 (canal gauche) VR3 (canal droit)	Mode de lecture Commutateur Dolby NR sur arrêt (OFF).

■ VITESSE DE BANDE

COMPTEUR	REGLAGE
Brancher sur le jack de l'écouteur	1. Procéder à la lecture de la cassette de contrôle (QZZCWAT, 3kHz). 2. Régler le VR pour la vitesse du moteur jusqu'à ce que le compteur affiche 3000Hz±3dB.

RX-S35 DEUTSCH

■ TECHNISCHE DATEN

Allgemeines:

Stromversorgung:	Batterie: 3V (zwei Mignonzellen) (Panasonic UM-3 oder gleichwertige)
Ausgangsleistung:	max. 0,4W (2×0,2W)
Lautsprecher:	Tieftonlautsprecher: dynamischer
Eingangsspannungen:	DC IN: 3V
Ausgangsimpedanzen:	HEADPHONES: 32Ω
Abmessungen (B×H×T):	84,5×114,5×34,5mm
Gewicht (ohne Batterien):	0,26kg

Empfangsteil:

Wellenbereiche:	UKW: 87,5∼108MHz MW: 520∼1610kHz (577∼186m)
Zwischenfrequenz:	UKW: 10,7MHz MW: 455kHz
Empfindlichkeit:	UKW: 2,5μV (−3dB Grenzempfindlichkeit) MW: 100μV bei 1mW Ausgangsleistung

Tonbandteil:

Frequenzgang:	50∼12.000Hz (Normalband) 50∼12.000Hz (Reineisenband)
Bandgeschwindigkeit:	4,8cm/s
Spieldauer:	1 Stunde mit Cassette C-60
Spurlage:	Stereoaufnahme und -wiedergabe auf 4 Spuren/2 Kanälen

Änderungen vorbehalten.

BEZEICHNUNGEN IN DER SCHEMATISCHEN DARSTELLUNG

Bemerkungen:

1. S1-1, S1-2: Funktionsschalter auf „TAPE". (1 = TAPE/POWER OFF, 3 = RADIO).
2. S2-1, S2-2: Wellenbereichsschalter auf „AM". (1, 3 = MW, 2, 4 = FM, 3, 5 = FM ST).
3. S3-1, S3-2: Bandsortenwähler auf „NORMAL". (1 = NORMAL, CrO_2/METAL).
4. S4: Dolbyschalter auf „OUT".
5. S5: EIN/AUS-Schalter des Motors auf „OFF".
6. S6: Pedasschalter auf "FWD".
7. VR1: Einstellung der spannungsgesteuerten Oszillatorfrequenz.
   VR2, 3: Spannungsregler zur Einstellung der Wiedergabeverstärkung.
   VR4: Lautstärkeregler.
8. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B. ▼1 = Meßpunkt 1.
9. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   < >...Stellung „FM", ( )...Stellung „AM", Nein marke...Stellung „Wiedergabe".
10. Batteriestrom: ohne Signal 15mA
    bei maximaler Ausgangsleistung (Radio) 24mA
    bei maximaler Ausgangsleistung (Cassette) 157mA

ABGLEICH

■ VORGANGSWEISE BEIM ABGLEICH

BITTE DIESEN ABSCHNITT VOR DEM ABGLEICH SORGFÄLTIG DURCHLESEN

1. Den Lautstärkeregler in die Maximalposition stellen.
2. Den Wellenbereichsschalter auf AM oder UKW stellen.
3. Den Funktionsschalter auf „radio" stellen.
4. Eine Gleichspannung von 3V anlegen.
5. Der Signalgeneratorausgang sollte nicht größer sein, als für eine Ausgangsanzeige unbedingt notwendig ist.

■ AM-ABGLEICH

	WELLENBAND	SIGNALGENERATOR oder WOBBELGENERATOR: ANSCHLÜSSE	SIGNALGENERATOR oder WOBBELGENERATOR: FREQUENZ	STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIKVOLTMETER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
	AM-ZF-ABGLEICH						
(1)	AM	Aus einem Draht einige Schleifenwindungen bilden und das Signal in die Empfängerschleife abstrahlen.	455kHz, 30% mod. (Modulationsfrequenz 400Hz)	Der Abstimmpunkt, wo keine Interferenz auftritt. (ungefähr bei 600kHz)	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	T3 (AM-ZF-Abgleich)	Die maximale Ausgangsleistung einstellen.
	AM-HF-ABGLEICH						
(2)	AM	〃	511kHz	Drehkondensator ganz geschlossen.	〃	L4 (AM-Oszillatorspule)	Die maximale Ausgangsleistung einstellen.
(3)	AM	〃	1.650kHz	Drehkondensator ganz aufgedreht.	〃	CT4 (AM-Oszillatortrimmer)	〃
(4)	AM	〃	550kHz	Das Signal abstimmen.	〃	(＊1) L3 (AM-Antennenspule)	Die maximale Ausgangsleistung einstellen. L3 durch Verschieben am Ferritkern abgleichen.
(5)	AM	〃	1.500kHz	〃	〃	CT3 (AM-Antennentrimmer)	Die maximale Ausgangsleistung einstellen. Die Schritte (2) bis (5) wiederholen.

(＊1) Nach beendetem Abgleich ist der Antennenspulenkörper mit Wachs zu befestigen.

■ UKW-ABGLEICH

	WELLENBAND	SIGNALGENERATOR oder WOBBELGENERATOR: ANSCHLÜSSE	SIGNALGENERATOR oder WOBBELGENERATOR: FREQUENZ	STELLUNG DES ABSTIMMREGLERS	MESSGERÄT (ELEKTRONIKVOLTMETER oder OSZILLOSKOP)	ABGLEICH	BEMERKUNGEN
	UKW-ZF-ABGLEICH						
(1)	UKW	Über einen 0,001μF-Kondensator an den Meßpunkt ▼3 anschließen. Den negativen Ausgang an den Meßpunkt ▼2 anschließen.	10,7MHz (SWP.)	Der Abstimmpunkt, wo keine Interferenz auftritt (ungefähr bei 90MHz).	Die Vertikalamplitude des Oszilloskops an den Meßpunkt ▼3 anschließen. Den negativen Ausgang an den Meßpunkt ▼2 anschließen.	T1 (1. UKW-ZF-Abgleich)	Die Maximalamplitude einstellen. (Siehe Abb. 18.)
(2)	UKW	〃	〃	〃	〃	T2 (2. UKW-ZF-Abgleich)	Die Maximalamplitude einstellen. (Siehe Abb. 19.)
	UKW-HF-ABGLEICH						
(3)	UKW	Über eine künstliche UKW-Antenne an den Meßpunkt ▼1 anschließen. Den negativen Ausgang an den Meßpunkt ▼2 anschließen.	87,35MHz	Drehkondensator ganz geschlossen.	Ausgangsleistungsmesser parallel zur Lautsprecher-Schwingspule.	L2 (UKW-Oszillatorspule)	(＊2) Die maximale Ausgangsleistung einstellen.
(4)	UKW		108,35MHz	Drehkondensator ganz aufgedreht.	〃	CT2 (UKW-Oszillatortrimmer)	〃
(5)	UKW		90MHz	Das Signal abstimmen.	〃	L1 (UKW-Antennenspule)	〃
(6)	UKW		106MHz	〃	〃	CT1 (UKW-Antennentrimmer)	(＊2) Die maximale Ausgangsleistung einstellen. Die Schritte (3) bis (6) wiederholen.

(＊2) Es gibt drei verschiedene Ausgangsfrequenzkurven. Stimmen Sie die Mittelfrequenz ab.

■ KANAL TRENNUNGSABGLEICH

PRÜFUNG	UKW-MFSSENDER SOURCE-ANSCHLUSS	GERÄTEANSCHLUSS (ELEKTRONISCHER ZÄHLER)	EINSTELLUNG	ANGABEN	BEMERKUNGEN
Einstellung des Pilottons	98MHz, 60dB Über eine künstliche UKW-Antenne an den Meßpunkt ▼1 anschließen Den negativen Ausgang an den Meßpunkt ▼2 anschließen.	▼6...(+) Erde...(−)	VR1	19kHz	Mit dem elektronischen Zähler den Spannungskonstanthalter (VR1) auf 19kHz (±100Hz) einstellen.

■ AUDIO-ABGLEICH

EINSTELLUNG	EINGANG	MESSPUNKT	MESSWERT	EINSTELLPUNKT	BEMERKUNGEN
Azimut	QZZCFM (8kHz, −20dB)	PHONES	Die maximale Ausgangsleistung einstellen.	Azimut-Einstellschraube	bei Wiedergabe Sicherstellen, daß der Unterschied zwischen FWD und REV innerhalb von ±3dB liegt.
Wiedergabepegel	QZZCFM (315Hz, 0dB)	▼7...(linker Kanal) ▼8...(rechter Kanal) Erde...(Masse)	72±8mV	VR2 (linker Kanal) VR3 (rechter Kanal)	bei Wiedergabe Dolby Rauschunterdrückungsschalter auf "OFF".

■ GESCHWINDIGKEITSEINSTELLUNG

ZÄHLER	EINSTELLUNG
An die Ohrhötrebuchse anschließen.	1. Testband abspielen (QZZCWAT, 3kHz). 2. Motordrehzahl-VR so einstellen, daß 3000Hz±90Hz am Meßwark angezeigt wird.

WIRING CONNECTION DIAGRAM MODEL RX-S35

Ref. No.	Part No.	Function Name	Zone
IC1	RVITA7358F	FM FRONT END	B • 2
IC2	AN7226S	FM/AM IF AMP & DET AM OSC/MIX	B • 5, 6
IC3	RVIBA1360F	FM MPX	B • 8, 9
IC4	RVIBA3404F	EQ AMP	D, E • 2, 3
IC5	AN7375S	DOLBY	D, E • 6
IC6	RVITA7688FS	POWER AMP	D, E • 8
Q1	2SK160	AM RF AMP	B • 3
Q2	2SD601	SWITCHING	D • 4
Q3	2SB709	SWITCHING	C • 9
D1	LN247RPLF	FM STEREO IND	A • 7
D2	LN230RPPLFRA	BATT IND	C • 9
D3	RVDKB162	SWITCHING	C • 4

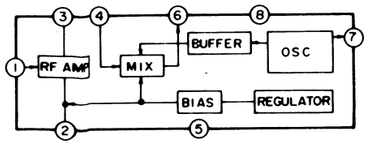
Notes:

1. S1-1, S1-2: Function switch in "Radio" position. (1...TAPE/POWER OFF, 3...RADIO)
2. S2-1, S2-2: Band switch in "AM" position. (1 • 3...AM, 2 • 4...FM, 3 • 5...FM ST)
3. S3-1, S3-2: Tape selector in "NORMAL" position. (1...NOR, 3...CrO_2/METAL)
4. S4: Dolby NR switch in "OUT" position. (1...OUT, 3...IN)
5. S5: Motor switch in "OFF" position.
6. S6: Head selector switch in "FWD" position.
7. VR1: VCO oscillator frequency adjust VR.
   VR2: Playback Gain adjust VR. (Rch)
   VR3: Playback Gain adjust VR. (Lch)
   VR4: Volume control VR.
8. The mark (▼) shows test point e.g. ▼= test point 1.
9. DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
   < >...FM position, ( )...AM position,
   No mark...Playback position.
10. Battery current: No signal 15mA
    Maximum output (radio) 24mA
    Maximum output (tape) 157mA

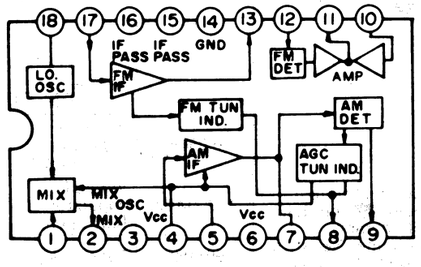
+ (B) Voltage Line
Tape (PLAYBACK) Signal Line
Radio (FM) Signal Line

■ IC BLOCK DIAGRAM

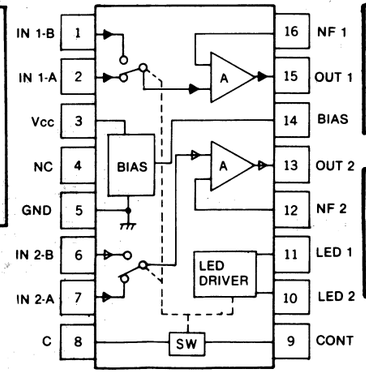
IC1 RVITA7358F



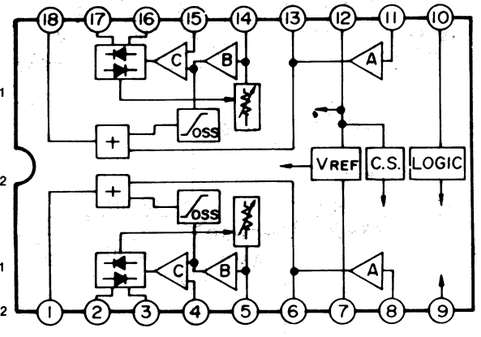
IC2 AN7226



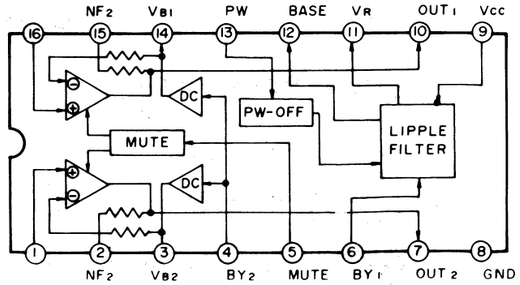
IC4 RVIBA3404F



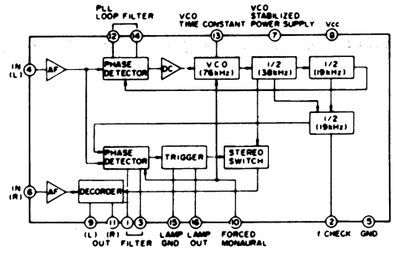
IC5 AN7375S



IC6 RVITA7688FS



IC3 RVIBA1360F



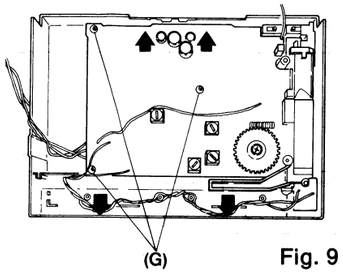


Fig. 9

1. Push the cabinet catch in the direction of the arrow, and remove the printed circuit board. (Fig. 9)
2. Remove three screws-G. (1.6×3.5) (Fig. 9)

G. Operational check procedures for the mechanism.

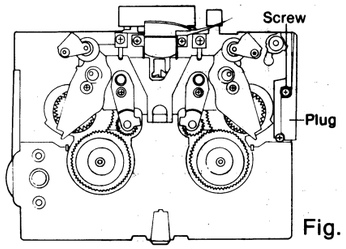


Fig. 12

1. Remove two screws. (1.7×3) (Fig. 12)
2. Insert the plug into the socket.

Note: Set S6 to on during fowerd.

F. When the tape is tangled around the pinch roller.

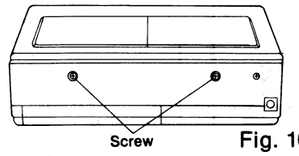


Fig. 10

1. Remove two screws. (1.7×4) (Fig. 10)

H. How to replace the tuning knob.

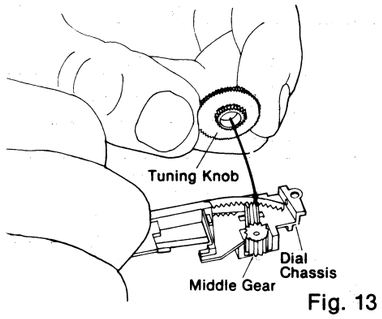


Fig. 13

Insert the tuning knob into the dial chassis.

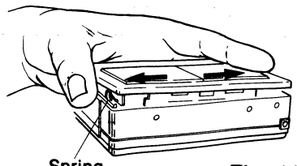


Fig. 11

2. Remove the spring. Remove the cassette tape by moving it left and right, and also remove the cassette lid. (Fig. 11)

I. Take care.

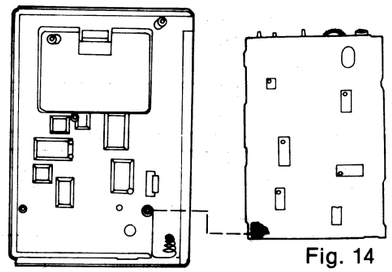
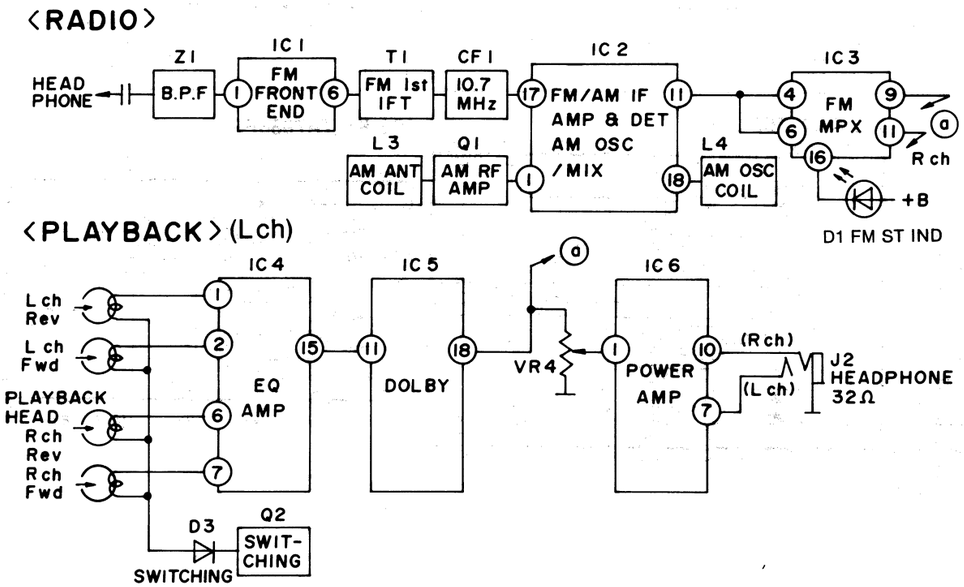


Fig. 14

Install so that the minus (–) terminal of the battery and the ground terminal of the circuit board touch properly.

BLOCK DIAGRAM



MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

1. Set volume control to maximum.
2. Set band switch to AM or FM ST.
3. Set balance control to center.
4. Set function selector to radio.
5. Set power source voltage to 3V DC.
6. Output of signal generator should be no higher than necessary to obtain an output reading.

■ AM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
		AM-IF ALIGNMENT					
(1)	AM	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455kHz 30% Mod. at 400Hz	Point of non-interference. (on/ about 600kHz)	Output meter across voice coil.	T3 (AM IFT)	Adjust for maximum output.
		AM-RF ALIGNMENT					
(2)	AM	〃	511kHz	Tuning capacitor fully closed.	〃	L4 (AM OSC Coil)	Adjust for maximum output.
(3)	AM	〃	1,650kHz	Tuning capacitor fully open.	〃	CT4 (AM OSC Trimmer)	〃
(4)	AM	〃	550kHz	Tune to signal.	〃	(＊1) L3 (AM ANT Coil)	Adjust for maximum output. Adjust L3 by moving coil bobbin along ferrite core.
(5)	AM	〃	1,500kHz	〃	〃	CT3 (AM ANT Trimmer)	Adjust for maximum output. Repeat steps (2)～(5).

(＊1) Cement antenna bobbin with wax after completing alignment.

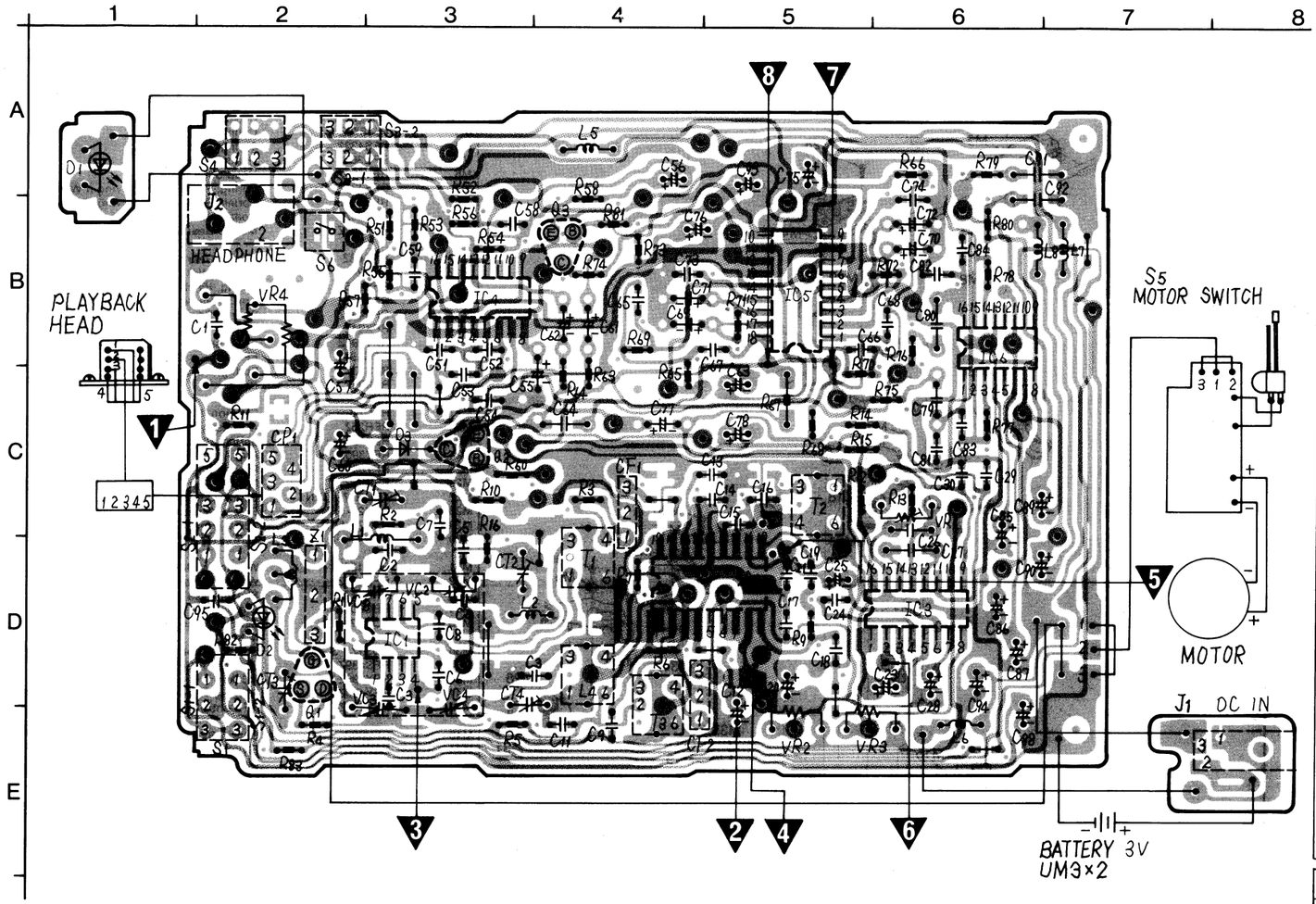
■ FM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
		FM-IF ALIGNMENT					
(1)	FM	High side thru. 0.001μF to test point ▼3. Negative side to test point ▼2.	10.7MHz (SWP.)	Point of non-interference. (on/ about 90MHz)	Connect vert. amp. of scope to test point ▼5. Negative side to test point Earth.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 18.)
(2)	FM	〃	〃	〃	〃	T2 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 19.)
		FM-RF ALIGNMENT					
(3)	FM	Connect to test point ▼1 through FM dummy antenna. Negative side to test point ▼2.	86.2MHz	Variable capacitor fully closed.	Output meter across voice coil.	L2 (FM OSC Coil)	(＊2) Adjust for maximum output.
(4)	FM		109.2MHz	Variable capacitor fully open.	〃	CT2 (FM OSC Trimmer)	〃
(5)	FM		90MHz	Tune to signal.	〃	L1 (FM ANT Coil)	〃
(6)	FM		106MHz	〃	〃	CT1 (FM ANT Trimmer)	(＊2) Adjust for maximum output. Repeat steps (3)～(6).

(＊2) Three output responses will be present; proper tuning is the center frequency.

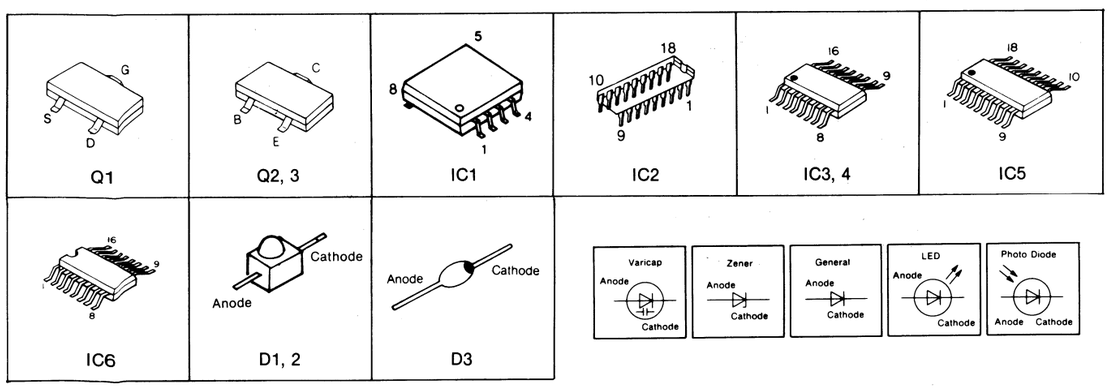
▼ Be sure to fold at the (▼) mark so that mark is on the outside.

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM MODEL RX-S35



Notes:

1. The circuit shown in ( ) on the conductor indicates printed circuit on the back side of the printed circuit board.
2. The circuit shown in ( ) on the conductor indicates printed circuit on the front side of the printed circuit board.
3. The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.



Numbering System of Resistor

Example

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value (100Ω)

ERX	2	AN	J	2R2
Type	Wattage	Shape	Tolerance	Value (2.2Ω)

Numbering System of Capacitor

Example

ECKD	1H	102	Z	F
Type	Voltage	Value (1000pF)	Tolerance	Peculiarity

ECEA	50	M	R47
Type	Voltage	Peculiarity	Value (0.47μF)

Resistor Type	Wattage	Tolerance
ERD: Carbon	10 : 1/8W	J : ±5%
ERO: Metal Film	12 : 1/2W	
ERX: Metal Film	25 : 1/4W	
ERQ: Fuse Type Metal	1 : 1W	
RRD: Carbon (Chip Type)	18 : 1/8W	

Capacitor Type	Voltage		Tolerance
	ECEA Type	Others	
ECEA: Electrolytic	0J : 6.3V	2H : 500V DC	C : ±0.25pF
ECCD: Ceramic	1A : 10V	1 : 100V	J : ±5%
ECKD: Ceramic	1C : 16V	DKC : 400V AC	K : ±10%
ECQM: Polypyester	1E : 25V		Z : +80%, −20%
ECQP: Polypropylene	1H : 50V		P : +100%, −0%
ECET: Electrolytic	1V : 35V		
ECEA□□□N: Non Polar Electrolytic	50 : 50V		
	25 : 25V		
QCU□: Ceramic (Chip Type)	16 : 16V		

REPLACEMENT PARTS LIST

Ref. No.	Part No.
RESISTORS	
R1	ERJ6GCJ330
R2	ERJ6GCJ470
R3	ERJ6GCJ680
R4	ERJ6GCJ470
R5	ERJ6GCJ681
R6	ERJ6GCJ102
R7	ERJ6GCJ121
R9	ERJ6GCJ153
R10	ERJ6GCJ680
R11	ERJ6GCJ470
R12	ERJ6GCJ221
R13	ERJ6GCJ682
R14	ERJ6GCJ103
R15	ERJ6GCJ103
R16	ERJ6GCJ103
R51	ERJ6GCJ103
R52	ERJ6GCJ103
R53	ERJ6GCJ154
R54	ERJ6GCJ154
R55	ERJ6GCJ682
R56	ERJ6GCJ682
R57	ERJ6GCJ820
R58	ERJ6GCJ820
R60	ERJ6GCJ103
R63	ERJ6GCJ103
R64	ERJ6GCJ103
R65	ERJ6GCJ332
R66	ERJ6GCJ332
R67	RRD18XJ183
R68	ERJ6GCJ183
R69	ERJ6GCJ473
R70	ERJ6GCJ473
R71	ERJ6GCJ394
R72	ERJ6GCJ394
R73	ERJ6GCJ680
R74	ERJ6GCJ220
R75	ERJ6GCJ102
R76	ERJ6GCJ102
R77	ERJ6GCJ332
R78	ERJ6GCJ332
R79	ERJ6GCJ3R9
R80	ERJ6GCJ3R9
R81	ERJ6GCJ103
R82	ERJ6GCJ122
R83	ERJ6GCJ221
CAPACITORS	
C1	RCUX1H101K
C2	RCUX1H150KC
C3	RCUX1H102MD
C4	RCUX1H100KC
C5	RCUX1H180KC
C6	RCUX1H050DC
C7	RCUX1E103MD
C8	RCUX1E223MD
C9	RCUX1H103ZF
C11	RCUX1E223MD
C12	ECEA0GK470
C13	RCUX1E223MD
C14	RCUX1E223MD
C15	RCUX1H100KC
C16	RCUX1H331K
C17	RCUX1E223MD
C18	RCUX1E33MD
C19	RCUX1E223MD
C20	ECEA0GK221
C21	RCUX1H681KB
C23	ECEA1HK2R2
C24	RCUX1E333MD
C25	ECEA1HKS010
C26	ECQP2A102JZ
C27	RCUX1E104MD
C28	ECEA1EK4R7
C29	RCUX1E103MD
C30	RCUX1E103MD
C31	RCUX1H070DC
C51	RCUX1H102MD
C52	RCUX1H102MD
C53	RCUX1H102MD
C54	RCUX1H102MD
C55	ECSE1AT1050L
C56	ECEA0GKS470
C57	ECEA0GKS470
C58	RCUX1E223MD
C59	RCUX1E223MD
C60	ECEA0GKS101
C61	ECSE1AT1050L
C62	ECSE1AT1050L
C63	ECEA1HKS0R1
C64	ECUX1E104MD
C65	RCUX1H472MD
C66	RCUX1H472MD
C67	RCUX1E333MD
C68	RCUX1E333MD
C69	ECSE1CT4740L
C70	ECSE1CT4740R
C71	ECSE1VT334SL
C72	ECSE1VT334SR
C73	RCUX1H822MD
C74	RCUX1H822MD
C75	ECEA0GKS470
C76	ECEA0GKS221
C77	ECSE1AT1050R
C78	ECEA1HKS010
C79	ECUX1E224ZF
C80	ECUX1E224ZF
C81	RCUX1H102MD
C82	RCUX1H102MD
C83	RCUX1H102MD
C84	RCUX1H102MD
C85	ECEA0GKS470L
C86	ECSF0JE226
C87	ECEA0GK101
C88	ECEA0GU471
C89	ECEA0GKS101
C90	ECEA0GKS101
C91	ECUX1E224ZF
C92	ECUX1E224ZF
C93	ECEA0GKS221
C94	ECSF0JD335
C95	RCUX1E103MD

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS, TRANSISTORS AND DIODES		
IC1	RVITA7358F	IC
IC2	AN7226ST	IC
IC3	RVIBA1360F	IC
IC4	RVIBA3404F	IC
IC5	AN7375S	IC
IC6	RVITA7688FS	IC
Q1	2SK160K5	Transistor (Si)
Q2	2SD601R	Transistor (Si)
Q3	2SB709R	Transistor (Ge)
D1	LN247RPLF	Diode (LED)
D2	LN230RPPLFRA	Diode (LED)
D3	RVDKB162B	Diode (Si)
COILS AND TRANSFORMERS		
L1	RL04Y34	Oscillator Coil, FM
L2	RL04Y19	Oscillator Coil, FM
L3	RLF2Y40	Antenna Coil, AM
L4	RL02A3	Oscillator Coil, AM
L5	EJJFA1R0K	Choke Coil
L6	RLQZN4R7K	Choke Coil
L7, 8	ELJFA2R2K	Choke Coil
T1	RLI4A27	IFT, FM 1st
T2	RLI4A31	IFT, FM 2nd
T3	RLI4A22	IFT, AM
VARIABLE CAPACITOR		
VC1	RCV4LC3R2Q	Variable Capacitor
TRIMMER CONDENSERS		
CT1, 2	RCVCTZ3120	Trimmer Capacitor
CT3, 4	RCVCTZ3110	Trimmer Capacitor
VARIABLE RESISTORS		
VR1	EVNA6AA00B14	Variable Resistor 10kΩ (B)
VR2, 3	EVNA1AA00B24	Variable Resistor 20kΩ (B)
VR4	EVUBAAT50A54	Variable Resistor 50kΩ (A)
CERAMIC FILTERS		
CF1	RVF107WAR	Ceramic Filter
CF2	RVFPFA455A	Ceramic Filter
SPARK KILLER		
Z1	RXABPWB8	B.P.F.
SWITCHES		
S1	RSS2B40Z	Switch, Function
S2	RSS3B27Z	Switch, Band
S3, 4	RSS2B42Z	Switch, Tape, Dolby
S5	RFA51Z	Switch, Motor
S6	RSH1A44Z	Switch, Head Selector
JACKS		
J1	RJJ1B3Z	DC IN
J2	RJJ1D34Z	Headphone

■ SEPARATION ALIGNMENT

ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	98MHz, 60dB (CW) Connect to test point ▼1 through FM dummy antenna. Negative side to test point ▼2.	▼6 .....(+) Earth...(−)	VR1	19kHz	Adjust VR1, for 19kHz (±100Hz) reading on electronics counter.

■ AUDIO ADJUSTMENT

ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
Azimuth	QZZCFM (8kHz, −20dB)	PHONES	Maximum output.	Azimuth screw (Refer to Fig. 13)	Playback mode Confirm that the difference between FWD and REV is within ±3dB.
Tape speed	QZZCWAT (3kHz)	PHONES	3000±90Hz	Motor speed VR	Playback mode (Refer to Fig. 16) (FWD or REV)
Playback gain	QZZCLA 315kHz, 0dB	▼7 .....(Rch) ▼6 .....(Lch) Earth...(−)	72±8mV	VR2 (Rch) VR3 (Lch)	1. Tape selector to normal. 2. Dolby NR switch to OFF.

■ ALIGMENT POINT

• Please refer to Circuit Board and Wiring Connection Diagram which is located test point.

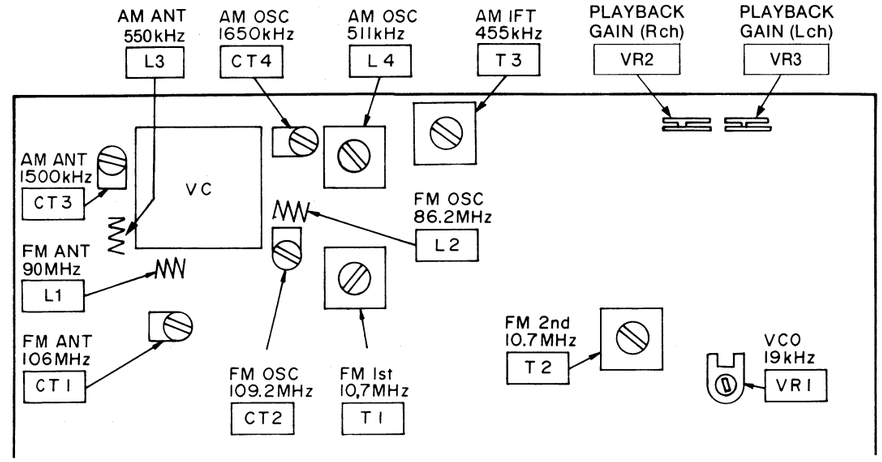


Fig. 15

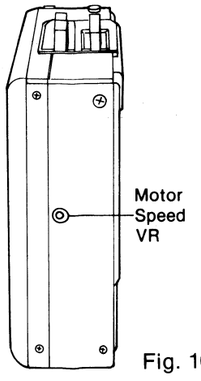


Fig. 16

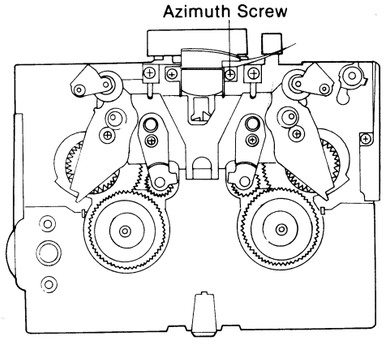


Fig. 17

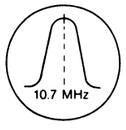


Fig. 18

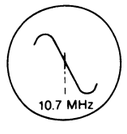
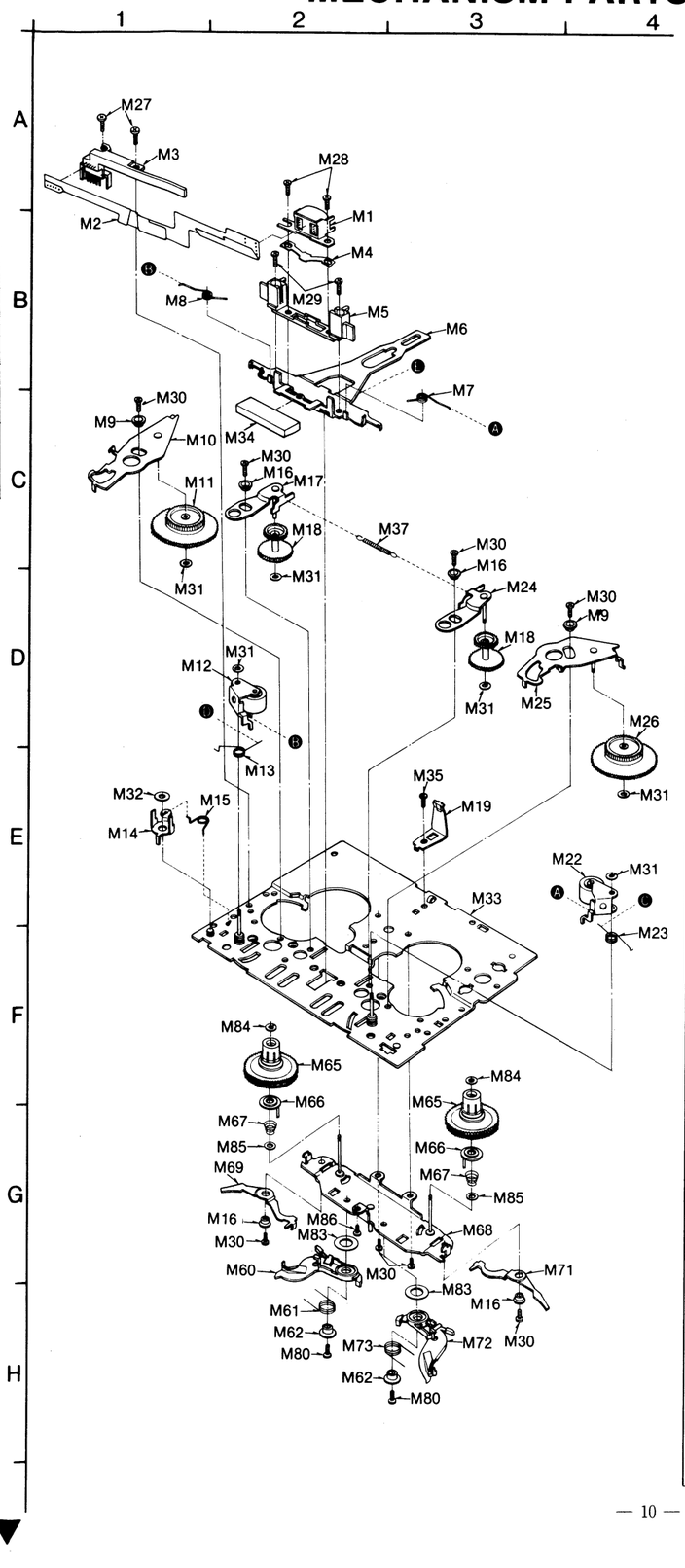


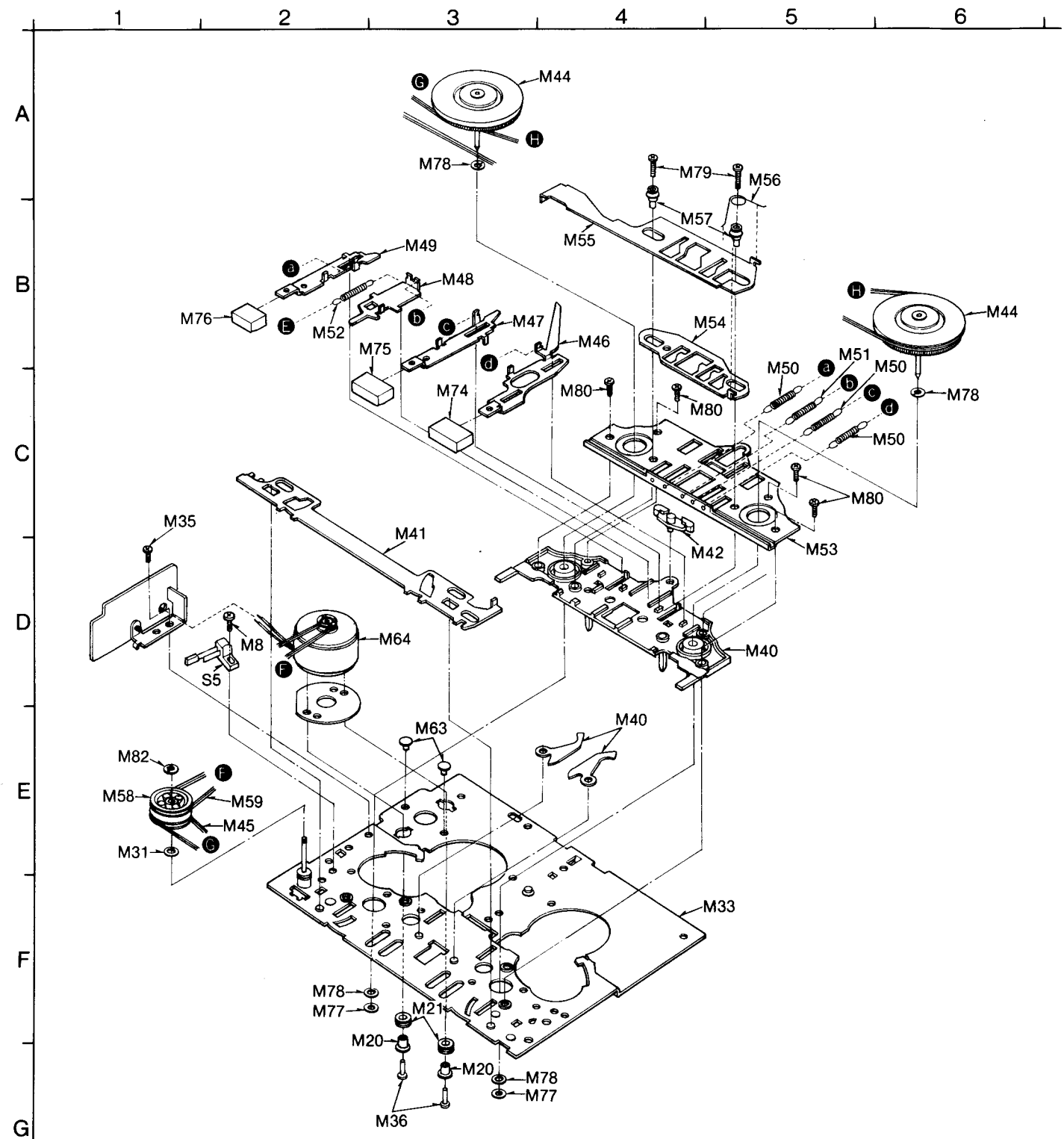
Fig. 19

MECHANISM PARTS LOCATION



REPLACEMENT PARTS LIST

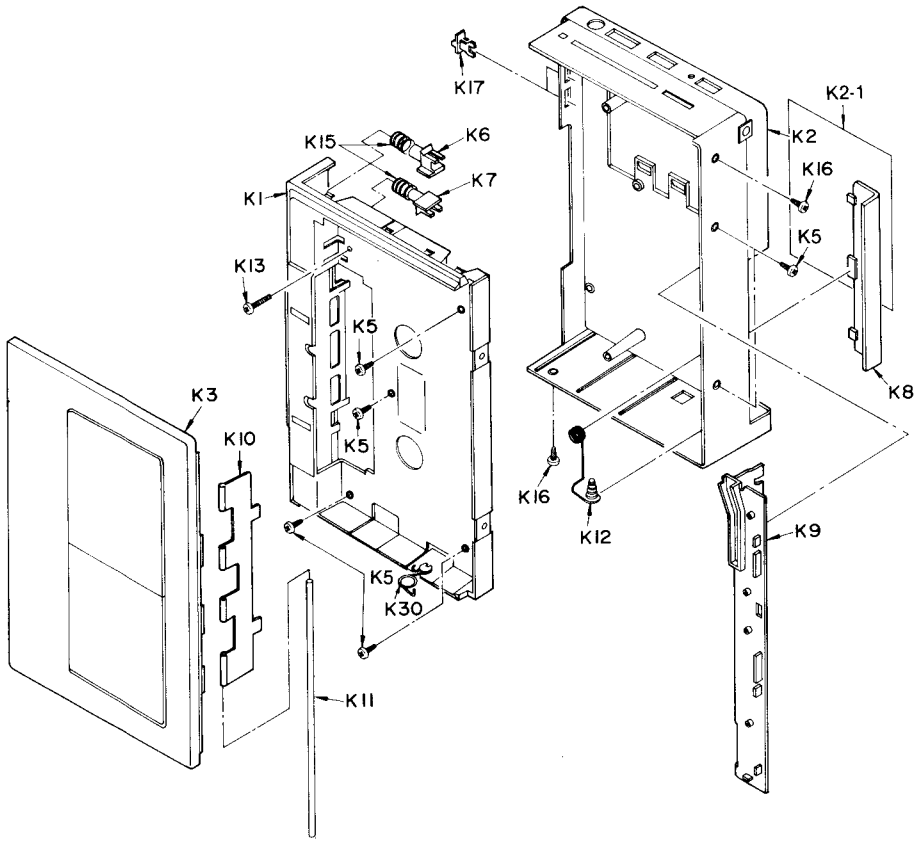
Ref. No.	Part No.	Part Name & Description
	MECHANICAL PARTS	
M1	RFH8Z	Playback Head
M2	RUP1821Z	Flexible Circuit Board
M3	RJT870Z	Connector
M4	RFS432Z	Spring, Head Base
M5	RFU36Z	Head Base
M6	RFY391Z	Head Slide Plate
M7	RFS433Z	Spring, Pinch Roller Moving (FWD)
M8	RFS434Z	Spring, Pinch Roller Moving (REV)
M9	RFX93Z	Collar, Middle Gear Moving Plate
M10	RFY392Z	Middle Gear Moving Plate Ass'y
M11	RFG68Z	Middle Gear (REV)
M12	RFR24Z	Pinch Roller Arm Ass'y (REV)
M13	RFS435Z	Spring, Pinch Roller Arm (REV)
M14	RFY393Z	Arm, Reverse
M15	RFS436Z	Spring, Reverse Arm
M16	RFX94Z	Collar
M17	RFY398Z	Arm Ass'y, FF Gear
M18	RFG69Z	FF Gear
M19	RFS437Z	Spring, Cassette Pressure
M20	RFX95Z	Collar
M21	RFI26Z	Cushion, Motor Ass'y
M22	RFR25Z	Arm Ass'y, Pinch Roller (FWD)
M23	RFS438Z	Spring, Pinch Roller (FWD)
M24	RFY395Z	Arm Ass'y, FF Gear (FWD)
M25	RFY396Z	Moving Plate Ass'y, Middle Gear
M26	RFG70Z	Middle Gear
M27	XSHR17 + 3FN	Screw, Connector M'tg
M28	XSN2 + 4FN	Screw, Azimuth
M29	XSN2 + 5FN	Screw, Head Plate M'tg
M30	XQN17 + 2	Screw, Moving Plate etc M'tg
M31	RFN133Z	Washer, Middle Gear etc M'tg
M32	RFN134Z	Washer, Reverse Arm M'tg
M33	RFU37Z	Shassis Ass'y
M34	RBC605Z	Button Play
M35	XQN17 + 16	Screw, Cassette Pressure Spring M'tg
M36	XQS17 + 3	Screw, Motor M'tg
M37	RFS439Z	Spring, FF Gear Arm
M40	RFY399Z	RC Arm
M41	RFY400Z	Reverse Plate
M42	RFY401Z	FF Control Arm
M43	RFU38Z	Button Base Ass'y
M44	RFF31Z	Flywheel Ass'y
M45	RFB44Z	Belt, Flywheel
M46	RFY402Z	Lever, Stop
M47	RFY403Z	Lever, FF (REV)
M48	RFY404Z	Plate, Head Panel
M49	RFY405Z	Lever, FF (FWD)
M50	RFS440Z	Spring, Stop, FF Lever
M51	RFS441Z	Spring, Head Plate
M52	RFS442Z	Spring, RC
M53	RFY406Z	Hold Plate
M54	RFY407Z	Lock Actuator
M55	RFY408Z	Switch Actuator
M56	RFS443Z	Spring, Lock Actuator
M57	RFX96Z	Collar, Lock Actuator
M58	RFQ33Z	Middle Pulley
M59	RFB45Z	Belt, Middle Pulley
M60	RFY409Z	Lever, Auto (REV)
M61	RFS444Z	Spring, Auto Lever (REV)
M62	RFX97Z	Collar, Auto Lever
M64	RFM38Z	Motor Ass'y
M65	RFJ42Z	Reel Table Ass'y
M66	RFY410Z	Detector Plate
M67	RFS445Z	Spring, Back Tention
M68	RFD185Z	Reel Plate Table Ass'y
M69	RFY411Z	Arm, Auto Control (REV)
M71	RFY412Z	Arm, Auto Control (FWD)
M72	RFY413Z	Lever, Auto (FWD)
M73	RFS446Z	Spring, Auto Lever
M74	RBC605Z	Button, Stop
M75	RBC604Z	Button, REW
M76	RBC602Z	Button, FF
M77	RFN135Z	Washer, Button Base, M'tg
M78	RFN136Z	Washer, Flywheel etc M'tg
M79	XQN17 + 65	Screw, Switch Actuator M'tg
M80	XQN17 + 35	Screw, Hold Plate M'tg
M81	XQN17 + C25	Screw, Switch M'tg
M82	RFN137Z	Washer, Polyslider
M83	RFN138Z	Washer, Auto Lever M'tg
M84	RFN139Z	Washer, Reel Table M'tg
M85	RFN140Z	Washer, Polyslider
M86	XQN17 + 25	Screw, Moving Plate M'tg

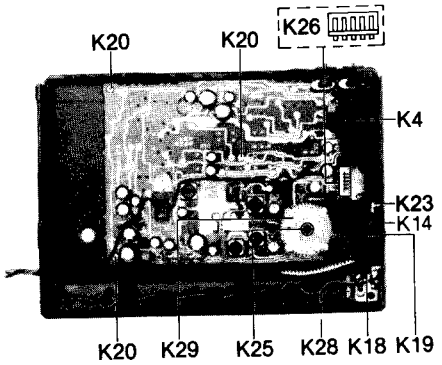


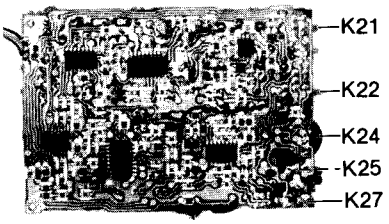
SPECIFICATIONS

Pressure of pressure roller	160gr
Wow & flutter	Less than 0.48% (WRMS)
Take up torque	25~45gr-cm
FF torque	50~100gr-cm
REW torque	50~100gr-cm

CABINET PARTS LOCATION







REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
	CABINET PARTS	
K1	RYMXS35M	Front Cabinet Ass'y
K2	RYFXS35M	Rear Cabinet Ass'y
K2-1	RGT1086X	Name Plate
K3	RYQXS35M	Cassette Panel Ass'y
K4	RZAXS35M	Dial Chassis Ass'y
K5	XQNR17+C4FZ	Screw, Front Cabinet, Cassette Panel Ass'y
K6	RBC606Z	Button, REV
K7	RBC637Z	Button, FWD
K8	RKK274Z	Battery Cover
K9	RJB3019Z	Holder, Battery
K10	RBH1027Y	Hinge, Cassette Panel
K11	RDF886X	Shaft, Hinge
K12	RJC758Z	Terminal, Battery – Side
K13	XTNR2+10CFZ	Screw, Front Cabinet M'tg
K14	RBT206Z	Knob, Tuning
K15	RUS569Z	Spring, Reverse Button
K16	XTNR2+4CFZ	Screw, Rear Cabinet M'tg
K17	RBD271Z	Knob, Dolby, Tape Selector
K18	XTNR2+6CFZ	Screw, Dial Chassis M'tg
K19	RDG5743Z	Middle Gear
K20	XQN16+AJ35FN	Circuit Board M'tg
K21	RBD269Z	Knob, Band
K22	RBD270Z	Knob, Function
K23	RDP259Z	Pointer, Dial
K24	RBT207Z	Knob, Volume
K25	XSHR17+2FZ	Screw, Volume Knob, Dial Gear M'tg
K26	RJS5Q3Z	Socket, 5 Pin
K27	RUA588Z	Holder, Bar Antenna
K28	RJC373Z	Terminal, Battery + Side
K29	RDG5744Z	Gear, Dial
K30	RUS571Z	Spring, Cassette Panel

ACCESSORIES AND PACKING MATERIALS

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
	ACCESSORIES	
	RQX4475Z	Instruction Book
	RD9285M	Headphon
	QFK0203K	Belt Crip

Ref. No.	Part No.	Part Name & Description
	PACKINGS	
	RPK1855Z	Gift Box
	RPN4497Z	Pad, Upper
	RPN4498Z	Pad
	RPH425Z	Soft Sheet
	XZB20X20A01	Polyethylene Cover
	RPE547Z	Cover
	RPE549Z	Pad

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